

# **Method for transfer of sound source signals**

## **BACKGROUND OF THE INVENTION**

### **1. Field of the invention**

The present invention relates to a method for transfer of transfer of sound source  
5 signals, particularly to a method for transfer of sound source signals like line-out,  
line-in, mike-in, and earphone-out, In the present invention, an insulator installed in a  
socket adapter can drive a detective circuit to determine whether there is a sound  
source plug inserted in the socket adapter or not. When there is a sound source plug  
inserted in, the transfer processing can be executed by a rear IC device.

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### **2. Description of the Prior Art**

In a conventional method for transfer of sound source signals, as shown in Fig.5,  
the signals at the output of the sound source signals are first processed by a output  
amplifier 1, and then are transmitted to the loudspeaker 3 through the output adapter 2  
15 for outputting. The signals at the input of the sound source signals are first received  
by the microphone 4, and then are transmitted to the input amplifier 6 through input  
adapter 5 for processing. As shown in Fig.6, the output adapter 2 and the input adapter  
5 are respectively composed of the terminals P1-P5, wherein the terminal P1 is  
connected to the ground, the terminals P2, P5 and the terminals P3, P4 respectively  
20 constitute an electrical circuit.

However, when the quantity of the adapter like adapters 2, 5 is increased, it is difficult  
for user to distinguish the type of the adapter. Once the adapter is used incorrectly, it  
can not operate normally. As above stated, the conventional method for transfer of  
sound source signals has its shortcoming, hence, an improved method for transfer of  
25 sound source signals is needed.

## **SUMMARY OF THE INVENTION**

The present invention is to provide a method for transfer of transfer of sound source signals which has the following advantages, effects and objectives:

- 5 01. The present invention can determine that whether there is a sound source plug inserted in the socket adapter or not;
02. The insulator in the socket adapter of the present invention constitutes an independent detective switch;
03. The rear IC device of the present invention can more easily determine the type of  
10 the sound source plug by a voltage dividing circuit;
04. The present invention can omit the circuit parts (like filter device) needed in conventional method for transfer of sound source signals.

The technical means and the specific capacity of the present invention now are  
15 described in detail by preferred embodiments and accompanying drawings as the following.

## **BRIEF DESCRIPTION OF THE DRAWINGS**

- FIG. 1 is a schematic diagram of the executed circuit of the present invention;
- 20 FIG. 2 is a schematic diagram of the socket adapter circuit of the present invention;
- FIG. 2A is an executed circuit diagram of the socket adapter of the present invention;
- FIG. 2B is a diagram of the executed circuit with two socket adapters in the present invention;
- 25 FIG. 2C is a diagram of the executed circuit with three socket adapters in the

present invention;

FIG. 2D is a diagram of the executed circuit with four socket adapters in the present invention;

FIG. 2E is a diagram of the executed circuit with five socket adapters in the present invention;

FIG. 3 is an executed situation diagram of FIG. 2;

FIG. 4 is an executed situation diagram of the second preferred embodiment of the present invention;

FIG. 5 is a schematic diagram of a conventional executed circuit;

FIG. 6 is a schematic diagram of a conventional socket adapter circuit.

## **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT**

Referring to FIG. 1, in the method of a preferred embodiment in accordance with the present invention, a voltage dividing circuit composed of socket adapters J1-J3 and resistors R4-R5 in series connects a rear IC device 70 for determining whether the socket adapters J1-J3 are inserted in by sound source plugs or not. If there is any sound source plug inserted in, the transfer processing of the signals from sound source can be processed by the rear IC device 70. Each socket adapter is an independent detective switch, wherein the socket adapter J1 connects the resistor R1 in parallel, the socket adapter J2 connects the resistor R2 in parallel and the socket adapter J3 connects the resistor R3 in parallel. Whereby the sound signals can be transferred between line-in, line-out, mike-in, and earphone-out.

Referring to FIGS. 2 and 2A, in the preferred embodiment, said each socket adapter J1-J3 has an insulator 60 in it and is provided with a first terminal 10, a second terminal 20, a third terminal 30, a fourth terminal 40 and a fifth terminal 50, wherein

said first terminal 10 is connected to the ground and when there is no sound source plug (not shown in FIGS) inserted in, said fourth terminal 40 and fifth terminal 50 keep electrical contact to form a detective circuit.

5 The preferred embodiment of the executed circuit of the socket adapter in accordance with the present invention can be further described by taking the socket adapter J1 as an example. As shown in FIG. 2A, the first terminal 10 is connected to the ground, the second terminal 20 connects a capacitor C1, the third terminal 30 connects another capacitor C2, and the fourth terminal 40 and the fifth terminal 50 connect the resistor R1 in parallel. The socket adapters J2-J3 are similar with this  
10 exemplary circuit. All of them are the feasible means of the present invention.

Referring to FIG. 3, in the preferred embodiment of the present invention, when a sound source plug (not shown in FIG) inserts in the socket adapters J1-J3, the sound source plug can touch the second terminal 20 and the third terminal 30 so that the insulator 60 can be driven to separate the fourth terminal 40 from the fifth terminal 50,  
15 whereby the detective circuit is in off-state. Meanwhile, the rear IC device 70 can determine that there is a sound source plug inserted in the socket adapters J1-J3 and can further measure the resistance of the sound source plug by the voltage dividing circuit, whereby the type of the sound source plug can be determined and the transfer processing of the signals from the sound source can be executed exactly.

20 Referring to FIG. 4, in the second preferred embodiment of the present invention, when a sound source plug (not shown in FIG) inserts in the socket adapter J1-J3, the insulator 60 can also be driven by the third terminal 30 to separate the fourth terminal 40 from the fifth terminal 50, that is, the third terminal 30 can touch and drive the insulator 60, and the insulator 60 sequentially drives the fifth terminal 50 so that the  
25 electrical contact between the fifth terminal 50 and the fourth terminal 40 can be cut

off. This is another feasible means of the present invention.

Referring to FIGS. 2A~2E, the quantity of the socket adapter of the present invention can be from one to six for executing a single or multiple channel function. What is shown in FIG. 2B is the preferred embodiment with two socket adapters J1, J2  
5 of the present invention. In socket adapter J1, the first terminal 10 is connected to the ground, the second terminal 20 connects a capacitor C1, the third terminal 30 connects another capacitor C2, and the fourth terminal 40 and the fifth terminal 50 connect resistor R1 in parallel. In socket adapter J2, the first terminal 10 is connected to the ground, the second terminal 20 connects a capacitor C3, the third terminal 30 connects  
10 another capacitor C4, and the fourth terminal 40 and the fifth terminal 50 connect the resistor R2 in parallel.

What is shown in FIG. 2C is the preferred embodiment with three socket adapters J1, J2, J3 of the present invention. The circuits of the socket adapters J1, J2 in FIG. 2C are the same as in FIG. 2B. As for the socket adapter J3, the first terminal 10 is  
15 connected to the ground, the second terminal 20 connects a capacitor C5, the third terminal 30 connects another capacitor C6, the fourth terminal 40 and the fifth terminal 50 connect a resistor R3 in parallel.

What is shown in FIG. 2D is the preferred embodiment with four socket adapters J1, J2, J3, J4 of the present invention. The circuits of the socket adapters J1, J2, J3 in FIG.  
20 2D are the same as in FIG. 2C. As for the socket adapter J4, the first terminal 10 is connected to the ground, the second terminal 20 connects a capacitor C7, the third terminal 30 connects another capacitor C8, the fourth terminal 40 and the fifth terminal 50 connect a resistor R6 in parallel.

What is shown in FIG. 2E is the preferred embodiment with five socket adapters J1, J2, J3, J4, J5 of the present invention. The circuits of the socket adapters J1, J2, J3,  
25 J4, J5 of the present invention. The circuits of the socket adapters J1, J2, J3,

and J4 in FIG. 2E are the same as in FIG. 2D. As for the socket adapter J5, the first terminal 10 is connected to the ground, the second terminal 20 connects a capacitor C9, the third terminal 30 connects another capacitor 10, and the fourth terminal 40 and the fifth terminal 50 connect a resistor R7 in parallel. A preferred embodiment  
5 with six socket adapters in accordance with the present invention can be deduced from the FIGS. 2B~2E.

The above mentioned are parts of feasible means of the present invention. All of them are the preferred embodiments of the present invention and are in accordance with the spirit of the present invention. Therefore, they should be included in the  
10 claims of the present invention.